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Hill Air Force Base, Utah

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*Final*

**Phase I Environmental Baseline Survey:  
Waste to Energy Facility,  
Hill Air Force Base, Utah**

December 28, 2009

**Final Phase I Environmental Baseline Survey (EBS)  
Waste to Energy Facility,  
Hill Air Force Base, Utah**

**Contract FA8201-08-D-0006, Order E017**

**Department of the Air Force  
Air Force Materiel Command  
Hill Air Force Base, Utah 84056  
December 28, 2009**

**Prepared in accordance with Department of the Air Force Instruction 32-7066, *Environmental Baseline Surveys in Real Estate Transactions*, Dated April 25, 1994, which implements Air Force Policy Directive 32-70, *Environmental Quality***

## **EXECUTIVE SUMMARY**

### **Purpose and Location of the Phase I Environmental Baseline Survey**

Hill Air Force Base (AFB) proposes to complete a lease in the southeastern portion of the base, on which a private entity would construct and operate a waste to energy facility. The subject property is currently occupied by unimproved playing fields. Establishing the proposed waste to energy facility would reduce the need to purchase electricity from off-base sources.

This Phase I Environmental Baseline Survey (EBS) is intended to:

- document known or suspected environmental contamination of the subject property;
- identify potential environmental contamination liabilities;
- establish environmental due diligence;
- develop information with which to assess health and safety risks to the extent that sampling activities were part of the project scope; and
- contribute to a process that is protective of human health and the environment.

### **Survey Methodology**

The Phase I EBS investigation was conducted in accordance with Department of the Air Force Instruction (AFI) 32-7066, *Environmental Baseline Surveys in Real Estate Transactions*, Dated April 25, 1994, which implements Air Force Policy Directive 32-70, *Environmental Quality*. Procedures documented in the AFI Chapter 2 (*Conducting Phase I of the EBS*) were followed during records searches, literature reviews, interviews, site visits, and formulation of conclusions.

Past and present ownership and land use of the subject property was determined by reviewing the *Ownership Map of Ogden Arsenal and Vicinity*, revised 1936 (Ogden 1936). Hill AFB personnel were contacted regarding current use and history of the subject property. Two local history books were reviewed. Hill AFB historical maps were located and reviewed. Historical topographic maps were reviewed. Aerial photographs from a variety of time periods were reviewed. Hill AFB installation restoration program (IRP) and storage tank program records were reviewed.

Forty federal and state databases were accessed by a private database specialty vendor to search for any history of hazardous waste storage, use, treatment, or disposal, and similar records for landfills and other regulated substances such as petroleum compounds and polychlorinated biphenyls. The database search met the requirements of the *Standard Practice for Environmental Site Assessments*, E 1527-05, published by the American Society for Testing and Materials.

Utah Division of Air Quality reports were reviewed for an adjoining facility to the east, a commercial waste to energy facility operated by Wasatch Energy Systems.

The site and adjoining properties were visually inspected on November 10, 2009.

Sampling of environmental media was not incorporated into the scope of the project. If investigators had suspected that such environmental sampling was warranted, their course of action would have been to notify Hill AFB environmental managers for the effort to be handled by others or under a separate task assignment.

### **Findings**

Prior to government ownership, the land that later became Hill AFB was used for raising turkeys and dry farmed wheat. Since owned by the government, the subject property has been used for playing fields, which are currently unimproved.

During the site visit, no conditions were observed that would indicate presence of environmental contamination for the subject property. Database searches did not reveal any findings regarding the presence of hazardous materials or petroleum products for the subject property.

It is possible that asbestos exists on the subject property related to abandoned sewer and water lines.

### **Conclusions and Recommendations**

No environmental conditions, compliance issues, or needed corrective actions were identified related to the subject property. Based upon the results of the EBS, no recommendations were prepared relative to the proposed lease at this time.

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## **1.0 PURPOSE OF THE ENVIRONMENTAL BASELINE SURVEY**

Hill Air Force Base (AFB) proposes to complete a lease in the southeastern portion of the base, on which a private entity would construct and operate a waste to energy facility. The subject property is currently occupied by unimproved playing fields. Establishing the proposed waste to energy facility would reduce the need to purchase electricity from off-base sources.

This Phase I Environmental Baseline Survey (EBS) is intended to:

- document known or suspected environmental contamination of the subject property;
- identify potential environmental contamination liabilities;
- establish environmental due diligence;
- develop information with which to assess health and safety risks to the extent that sampling activities were part of the project scope; and
- contribute to a process that is protective of human health and the environment.

### **1.1 Boundaries of the Property and Survey Area**

Hill AFB is located approximately twenty five miles north of downtown Salt Lake City and 7 miles south of downtown Ogden, Utah (Figure 1 of Appendix B). Hill AFB is surrounded by several communities: Roy and Riverdale to the north; South Weber to the northeast; Layton to the south; and Clearfield, Clinton, and Sunset to the west. The base lies primarily in northern Davis County with a small portion located in southern Weber County.

The subject property for the proposed lease would be located in the southeastern portion of the base (see Figure 2 and Figure 3, Appendix B). Hill AFB land use in the vicinity of the subject property consists primarily of undeveloped land.

The site lies within Davis County, Utah, and is a portion of a larger parcel of land that was purchased by the United States' (US) government in the late 1930s from Albert K. Green (Appendix B). The parcel is in the northwest ¼ of the southeast ¼ of Section 4, Township 4 North, Range 1 West, Great Salt Lake Base and Meridian.

## **2.0 SURVEY METHODOLOGY**

### **2.1 Approach and Rationale**

The Phase I EBS investigation was conducted in accordance with Department of the Air Force Instruction (AFI) 32-7066, *Environmental Baseline Surveys in Real Estate Transactions*, Dated April 25, 1994, which implements Air Force Policy Directive 32-70, *Environmental Quality*. Procedures documented in the AFI Chapter 2 (*Conducting Phase I of the EBS*) were followed during records searches, literature reviews, interviews, site visits, and formulation of conclusions.

Reasonably obtainable documents were reviewed, a visual site inspection was completed, and interviews were conducted with individuals familiar with the current use and past history of the site.

#### **2.1.1 Description of Documents Reviewed**

Past and present ownership and land use of the subject property was determined by reviewing the *Ownership Map of Ogden Arsenal and Vicinity*, revised 1936 (Ogden 1936). A representative of the Hill AFB civil engineering squadron was contacted by telephone and by electronic mail.

Two local history books (Kaysville 1985, Leonard 1999) were reviewed at the Kaysville branch, Davis County libraries.

Hill AFB historical maps showing the area including the subject property were located and reviewed for the years 1940 through the 1980s. Portions of selected historical maps are included in Appendix B (Ogden 1943, Hill AFB 1959, Hill AFB 1967).

Historical topographic maps were located and reviewed for the years 1955, 1969, 1975, 1986, and 1992 (EDR 2009a - Appendix B).

Aerial photographs were located and reviewed for the years 1975, 1981, 1987, 1993, 1997, and 2006 (EDR 2009b - Appendix C).

Forty federal and state databases were accessed by a private database specialty vendor to search for any history of hazardous waste storage, use, treatment, or disposal, and similar records for landfills and other regulated substances such as petroleum compounds and polychlorinated biphenyls (PCBs) (EDR 2009c). The database search met the requirements of the *Standard Practice for Environmental Site Assessments*, E 1527-05, published by the American Society for Testing and Materials.

Hill AFB Installation Restoration Program (IRP) records were reviewed (Appendix D).



Hill AFB records for storage tanks were reviewed.

State of Utah reports (Department of Environmental Quality, Division of Air Quality [DAQ]) were reviewed for an adjoining facility to the east, a commercial waste to energy facility operated by Wasatch Energy Systems.

### **2.1.2 Property Inspections**

The objective of the site inspection is to identify any visual or olfactory evidence of environmental conditions in connection with the subject property or adjoining properties to the extent not obstructed by bodies of water, adjacent buildings, snow, or other obstacles.

The site and adjoining properties were visually inspected on November 10, 2009. A map of the subject property is included as Figure 3 of Appendix B. Selected site photographs are included in Appendix C of this report.

### **2.1.3 Personal Interviews**

Contact information for persons interviewed during data collection efforts is provided in Appendix E of this document. Typed notes from the interviews and/or e-mails documenting discussions are included in Appendix D.

The following Hill AFB personnel were contacted regarding site history for the subject property:

- Loni Johnson, Real Estate, Land Use;
- Jarrold Case, P.E., Remedial Project Manager;
- Sam Johnson, Storage Tank Program;
- Mike Berglund, Pipelines, Hydrant Fueling, and Transfer Systems;
- Helen Kenyon-Bares, Natural Gas Pipelines;
- Bob Garland, Oil/Water Separators;
- Stephanie Winiecki, Pesticides;
- Mike Petersen, Wastewater;
- Bob Lepper, Wastewater;
- William Kopfman, Drinking Water;
- Rodney Sanders, Asbestos, PCBs, Lead-Based Paint;
- Cary Fisher, Radon;
- Amy Butler, Historian; and
- David R. Kendziora, Historian.

#### **2.1.4 Sampling**

Sampling of environmental media was not incorporated into the scope of the project. If investigators had suspected that such environmental sampling was warranted, their course of action would have been to notify Hill AFB environmental managers for the effort to be handled by others or under a separate task assignment.

### **3.0 FINDINGS FOR THE SUBJECT PROPERTY**

#### **3.1 History and Current Use**

According to the *Ownership Map of Ogden Arsenal and Vicinity*, revised 1936 (Ogden 1936), the subject property lies within a larger parcel of that was purchased by the US government in the late 1930s from Albert K. Green (Appendix B).

According to the book *Layton Utah, Historic Viewpoints* (Kaysville 1985), the land that later became Hill AFB was committed to agricultural uses (raising turkeys and dry farmed wheat) prior to being purchased by the federal government for use by the US Army Air Corps (approximately 1938). The *History of Davis County* (Leonard 1999) similarly reports construction of Hill Field began in 1938 on a hilltop section of Davis County being used until that time as dry farmed land.

The Ogden Ordnance Depot historical map from 1943 (Appendix B) shows the subject property to be vacant. Subsequent Hill AFB maps show two small structures on the subject property (Appendix B). According to Ms. Loni Johnson and Mr. Rodney Sanders, Facility 10697 would have been a baseball backstop, and Facility S-696 would have been a restroom. During the site visit on November 10, 2009, it was observed that the baseball backstop is no longer present. Mr. Bob Lepper stated the restrooms were removed in 2007. Historical topographic maps are consistent with the Hill AFB produced maps.

Most of the aerial photographs reviewed were of such poor quality that a determination could not be made regarding condition of the subject property. The best aerial photographs that could be located were dated 1975 and 2006 (Appendix C). These aerial photographs are consistent with the Hill AFB produced maps.

Hill AFB land use on and in the vicinity of the subject property consists primarily of undeveloped land. Off base and immediately to the east of the subject property, Wasatch Energy Systems operates a commercial waste to energy facility.

During the site visit, a groundwater monitoring well was observed in the northeast corner of the subject property. As explained in Section 3.4.2, groundwater beneath and adjacent to the subject property is not contaminated. No conditions were observed that would indicate presence of environmental contamination near the subject property.

#### **3.2 Environmental Setting**

The subject property and surrounding properties are primarily occupied by undeveloped land (mown grass). To the east lies the Wasatch Energy Systems waste to energy facility. To the north lies a future Hill AFB entrance facility (visible in Figure 3, Appendix B).

### **3.3 Hazardous Substances**

#### **3.3.1 Hazardous Materials and Petroleum Products**

No current or former presence of hazardous materials or petroleum products was identified on or adjacent to the subject property.

The database searches by Environmental Data Resources (EDR) did not reveal any findings regarding the presence of hazardous materials or petroleum products on or adjacent to the subject property.

See Section 3.5 for information on storage tanks.

#### **3.3.2 Hazardous and Petroleum Waste**

No current or former presence of hazardous petroleum waste was identified on or adjacent to the subject property.

The database searches by EDR did not reveal any findings regarding the presence of hazardous waste or petroleum waste on or adjacent to the subject property.

### **3.4 Installation Restoration Program Contamination**

#### **3.4.1 Soil**

No current or former presence of soil contamination was identified on or adjacent to the subject property.

#### **3.4.2 Groundwater**

A 2005 report (CH2M 2005) discussed groundwater contamination near the Hill AFB golf course. The groundwater plume, as mapped by this report, lies over 1,000 feet to the north of the subject property (Appendix D). No current or former presence of groundwater contamination was identified on or adjacent to the subject property.

### **3.5 Storage Tanks**

#### **3.5.1 Above Ground Storage Tanks**

No current or former presence of above ground storage tanks (ASTs) was identified on or adjacent to the subject property.

#### **3.5.2 Underground Storage Tanks**

No current or former presence of underground storage tanks (USTs) was identified on or adjacent to the subject property.

#### **3.5.3 Pipelines, Hydrant Fueling, and Transfer Systems**

The Hill AFB *Liquid Fuels System* map (Hill AFB 2000) did not indicate presence of any pipelines, hydrant fueling, or transfer systems on or adjacent to the subject property.

### **3.6 Oil/Water Separators**

Mr. Bob Garland did not indicate any current or former presence of oil/water separators on or adjacent to the subject property.

### **3.7 Pesticides**

Ms. Stephanie Winiecki reported the subject property is not treated with pesticides. Mowing is the only management activity on or adjacent to the subject property.

### **3.8 Medical or Biohazardous Waste**

Based on historical use of the subject property, no current or former presence of medical or biohazardous waste was suspected.

### **3.9 Ordnance**

Based on historical use of the subject property, no current or former presence of ordnance was suspected.

### **3.10 Radioactive Wastes**

Based on historical use of the subject property, no current or former presence of radioactive materials or waste was suspected.

### **3.11 Solid Waste**

No current or former presence of solid waste collection facilities was identified on or adjacent to the subject property. There may have trash cans present when the site was occupied by a baseball diamond and restrooms.

### **3.12 Groundwater**

See the groundwater discussion in Section 3.4.2.

### **3.13 Wastewater Treatment, Collection, and Discharge**

Mr. Mike Petersen and Mr. Bob Lepper indicated the former restrooms were connected to sanitary sewer lines, which were routed off-base to a treatment plant operated by the North Davis Sewer District. When the restrooms were removed, the sewer lines were capped and abandoned in place.

### **3.14 Drinking Water Quality**

Mr. William Kopfman reported the former restrooms did have drinking water available, so water lines are present for the subject property. The water supplied by the Hill AFB drinking water system is tested and meets drinking water quality standards.

### **3.15 Asbestos**

Mr. Rodney Sanders reported asbestos abatement was performed when the restrooms were removed from the subject property. It is possible that below-ground transite pipe exists related to the abandoned sewer and water lines.

### **3.16 Polychlorinated Biphenyls**

No current or former presence of PCBs was identified on or adjacent to the subject property.

### **3.17 Radon**

Ms. Cary Fisher reported a radon assessment performed in Hill AFB homes in the late 1980s indicated there were no problems with radon in Hill AFB homes. No other radon studies have been performed on Hill AFB. Housing was assumed to be the worst case (based on hours per year occupancy) and no radon concerns were identified.

### **3.18 Lead-Based Paint**

The restrooms were removed in 2007. Since the subject property is now vacant, the presence of lead-based paint was not suspected.

## **4.0 FINDINGS FOR ADJACENT PROPERTIES**

The EDR database searches were conducted to identify occurrences of storage and releases of hazardous materials, hazardous waste, and other regulated substances for nearby properties.

Hill AFB was identified by EDR as being present on multiple federal databases dealing with generation, storage, treatment, disposal, corrective action, and/or priority cleanup of hazardous waste, but specific locations on the base were not mapped by EDR. Hill AFB environmental managers and documents were consulted to obtain specific details regarding locations and types of hazardous materials, hazardous waste, or other regulated substances either on or in close proximity to the subject property. These details are presented in Sections 3.1 - 3.18 of this document.

In 2003, DAQ (DAQ 2003) and the Rocky Mountain Center for Occupational and Environmental Health (Rocky 2003) investigated the effects of dioxin emissions from the waste to energy facility located immediately east of the subject property. DAQ concluded, “soil dioxin levels in Davis County are below the levels seen in the Denver study and well below both Agency for Toxic Substances and Disease Registry (ATSDR) levels for screening and health based action levels.” The Rocky Mountain Center for Occupational and Environmental Health reported soil levels of dioxin on Hill AFB to be greater than levels elsewhere in Davis County, yet well below ATSDR health criteria screening levels (Appendix D).

### **4.1 Land Uses**

On-base land use surrounding the subject property consists primarily of undeveloped land. To the north lies a future Hill AFB entrance facility. Off base and immediately to the east of the subject property, Wasatch Energy Systems operates a commercial waste to energy facility.

### **4.2 Surveyed Properties**

The adjacent properties were visually inspected on November 10, 2009. No conditions were observed that would indicate presence of environmental contamination near the subject property.



## **5.0 APPLICABLE REGULATORY COMPLIANCE ISSUES**

### **5.1 List of Compliance Issues**

No compliance issues were identified for the proposed lease.

### **5.2 Description of Corrective Actions**

No needed corrective actions were identified for the subject property.

### **5.3 Estimates of Various Alternatives**

This section is not applicable to the current document.

## **6.0 CONCLUSIONS, DATA GAPS**

No environmental conditions, compliance issues, or needed corrective actions were identified related to the subject property.

### **6.1 Facility Matrix**

Building	Facility	Identified Conditions	Property Category Code
Not applicable	All of the subject property	None	1*

\* Category 1 properties are areas where no release or disposal of hazardous or petroleum substances has occurred (including no migration of these substances from adjacent areas).

### **6.2 Property Categories Map (If More Than One Category)**

All of the subject property is designated Category 1. Therefore, no property categories map was prepared.

### **6.3 Resources Map**

Resource inventories are not required by AFI 32-7066, and were outside the scope of this investigation. No resource map was prepared.

### **6.4 Data Gaps**

No data gaps were identified for the subject property.

## **7.0 RECOMMENDATIONS**

Based upon the results of the EBS, no recommendations were prepared relative to the proposed lease at this time.

## 8.0 CERTIFICATIONS

### Certification of the Environmental Baseline Survey

Streamline Consulting, LLC has conducted this environmental baseline survey on behalf of the Air Force. Streamline Consulting, LLC has reviewed all appropriate records made available, and conducted visual site inspections of the selected facilities following an analysis of information during the record search. The information contained within the survey report is based on records made available and, to the best of Streamline Consulting, LLC's knowledge, is correct and current as of the date shown below.

Certified by:

Randal B. KB.

Project Manager

Date: 12/28/09

Approved by:

HARRY BRIESMASTER III  
HARRY BRIESMASTER III, YF-03, DAF  
Director, 75th Civil Engineer Group

Date: 22 Jan 10

### Certification of PCB Clearance

The subject property is in compliance with 40 CFR 761 as outlined below:

Based on information provided by the Hill AFB asbestos program manager (Mr. Rodney Sanders, who also tracks the presence of lead-based paint and PCBs on Hill AFB), there is no known PCB contaminated soil, wastes, or unserviceable equipment remaining on the existing property.

Certified by:

Randal B. KB.

Project Manager

Date: 12/28/09

Approved by:

HARRY BRIESMASTER III  
HARRY BRIESMASTER III, YF-03, DAF  
Director, 75th Civil Engineer Group

Date: 22 Jan 10

### Certification of No Contamination

This real property contains no known hazardous substances as that term is defined in the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 9601), as amended, or other contamination as specified by the Resource Conservation and Recovery Act of 1976, the implementing Environmental Protection Agency regulations (40 CFR Parts 261, 262, 263, and 761), and the Federal Property Management Regulations (41 CFR Part 101-47).

A complete search of agency files revealed that no hazardous substance has been stored for more than one year, known to have been released, or disposed on the subject property.

Certified by:

Randal B. K.

Project Manager

Date: 12/28/09

Approved by:

Harry Briesmaster III

HARRY BRIESMASTER III, YF-03, DAF  
Director, 75th Civil Engineer Group

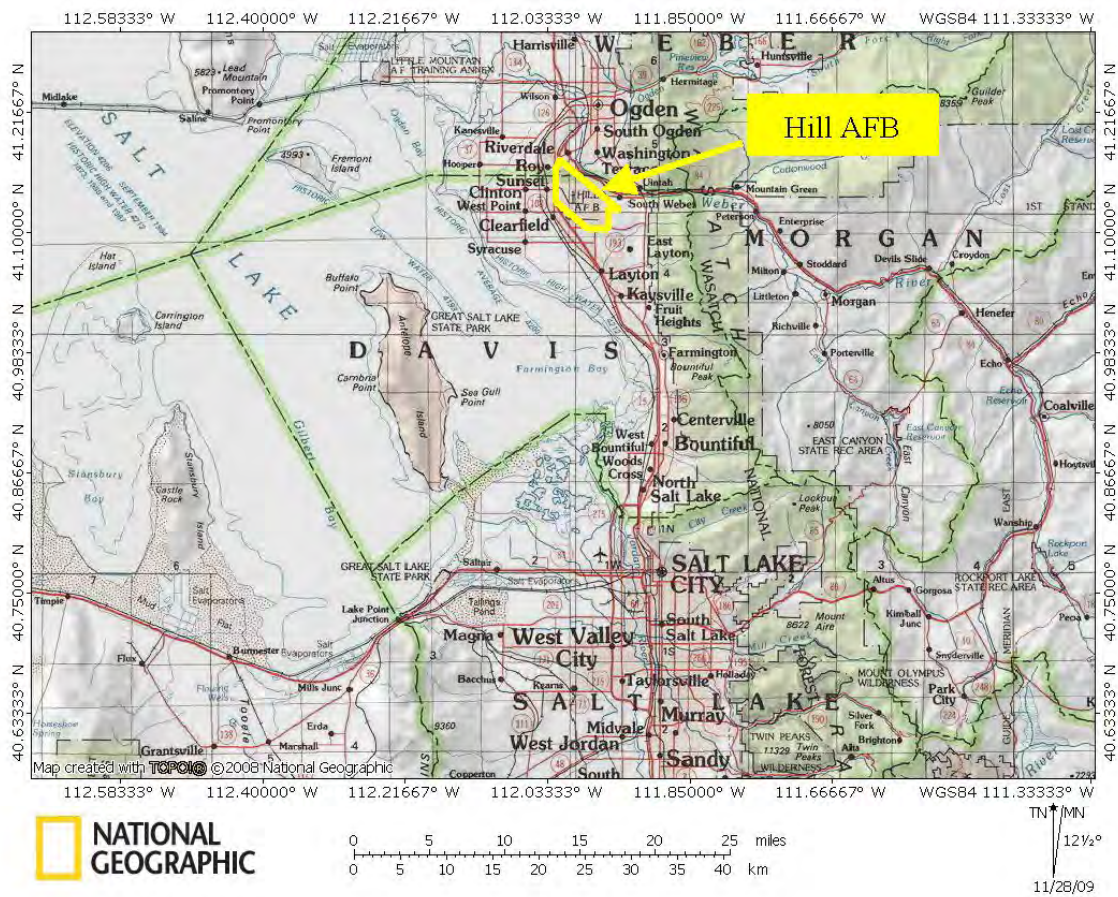
Date: 22 Jan 10

## **APPENDIX A      LIST OF ACRONYMS**

AFB	Air Force Base
AFI	Air Force Instruction
AST	Above Ground Storage Tank
ATSDR	Agency for Toxic Substances and Disease Registry
CFR	Code of Federal Regulations
DAQ	Division of Air Quality (state of Utah)
EBS	Environmental Baseline Survey
EDR	Environmental Data Resources
IRP	Installation Restoration Program
PCB	Polychlorinated Biphenyl
US	United States
UST	Underground Storage Tank

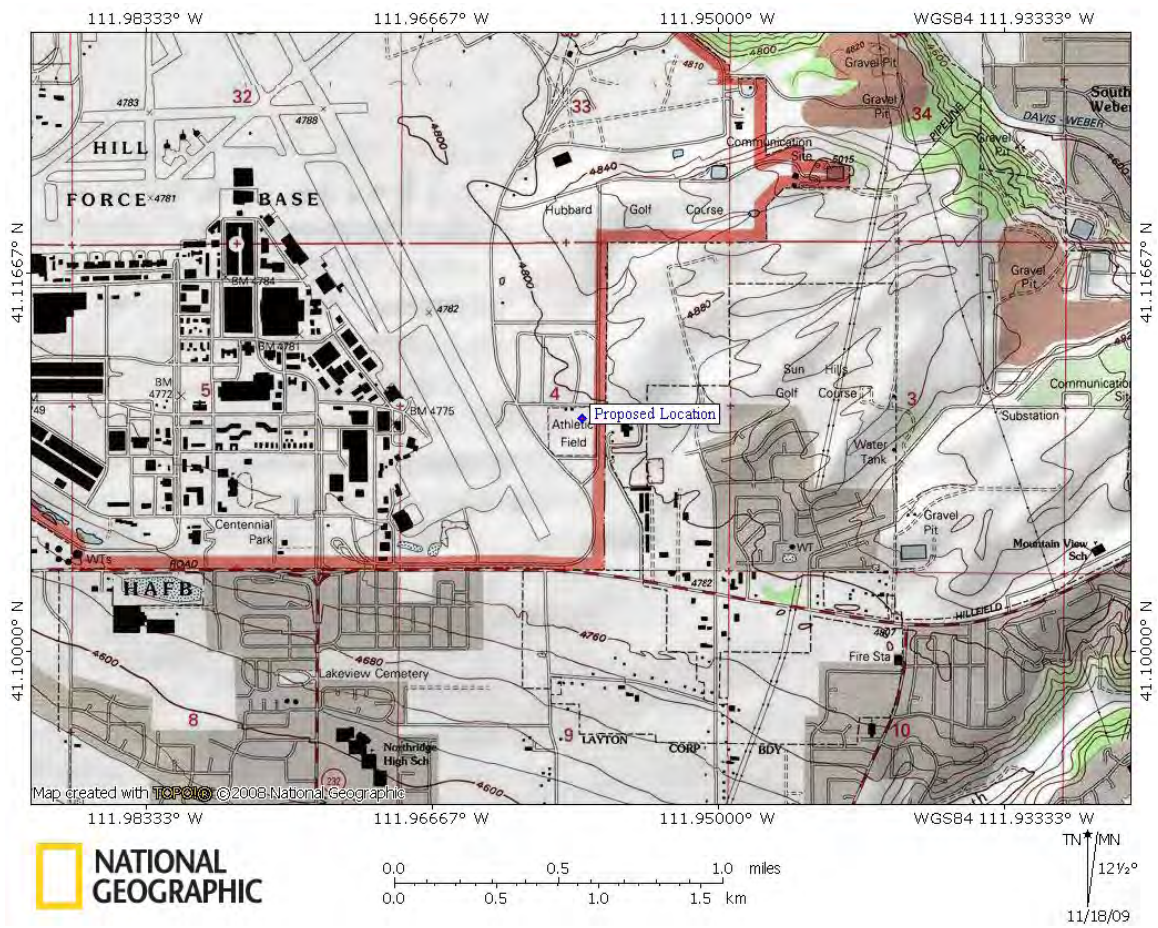
**APPENDIX B**  
**FIGURES AND MAPS**





**Figure 1: Hill AFB Location Map**



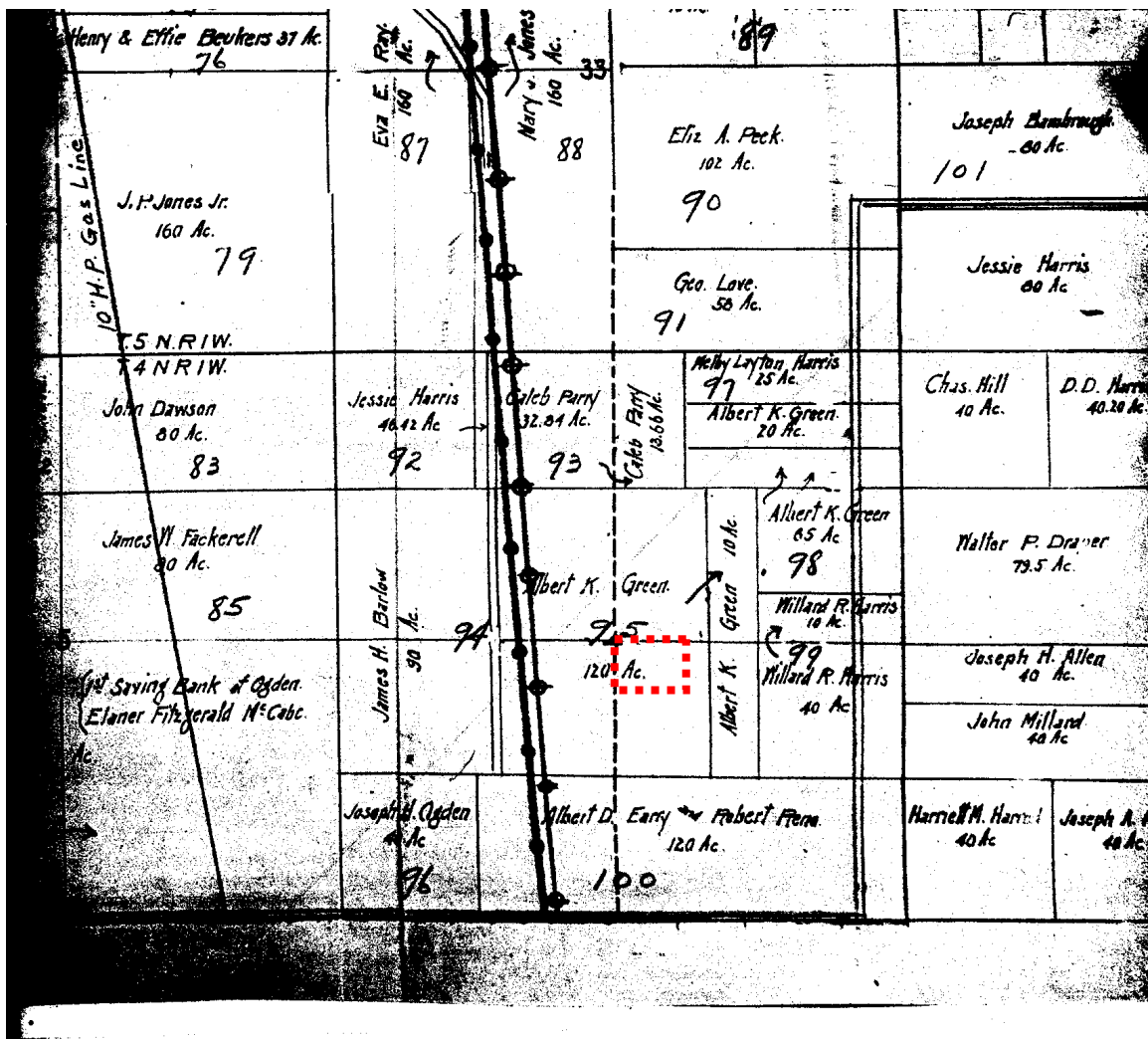


**Figure 2: Location of the Subject Property for the Proposed Lease**

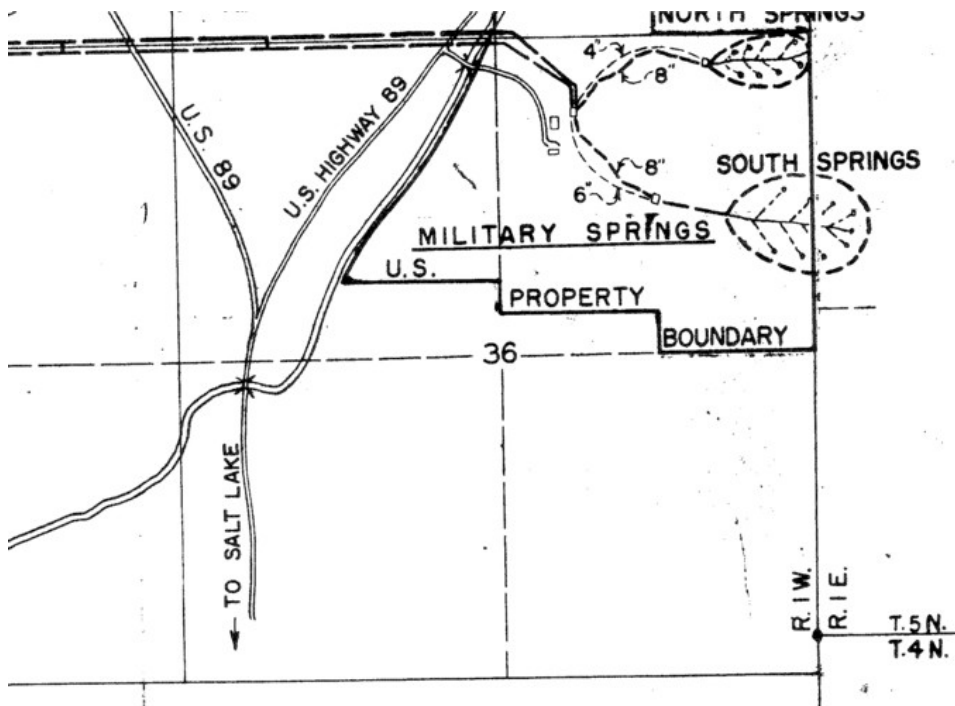


**Figure 3: Perimeter of the Subject Property**



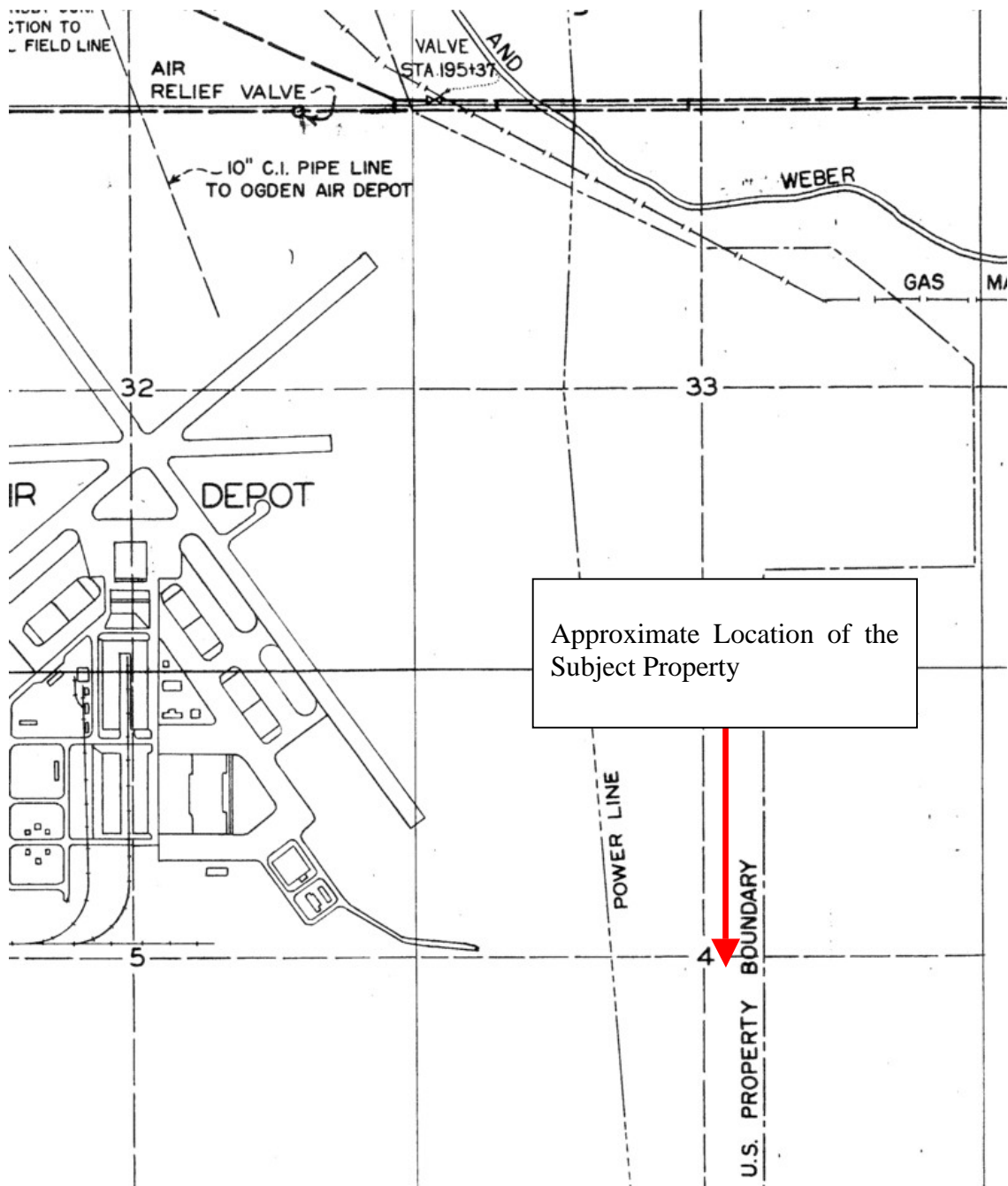


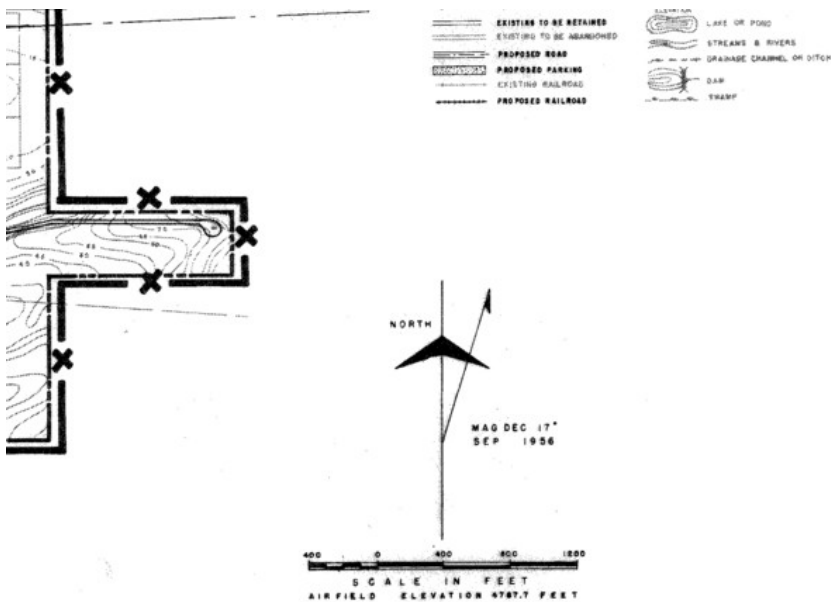
Dashed line indicates applicable portion of the northwest  $\frac{1}{4}$  of the southeast  $\frac{1}{4}$  of Section 4, Township 4 North, Range 1 West, Great Salt Lake Base and Meridian.



REVISIONS		WATER WORKS SYSTEM OGDEN ORDNANCE DEPOT		
2-8-43		D'FTSMAN	TRACER	ENGINEER <i>JCA</i>
		CHECKER	CHECKER <i>R. 12/4/42</i>	DATE 5-6-41
DRG. PERTAINS TO		SUBMITTED		
		CAPT. ORD. DEPT. U.S.A.		
		EXAMINED: <i>E. V. Little</i> CAPT. ORD. DEPT. U.S.A.		
		APPROVED: <i>J. Worthen Proctor</i> LT. COL. ORD. DEPT. U.S.A.		
SCALE: 1"=1,000'		OGDEN ORDNANCE DEPOT		
1.1-E-3				







## TY LEGEND

FENCING  
GATE  
SENTRY HOUSE  
CONTROL & IDENTIFICATION  
GUARD TOWER

1 STRANDS BARBED WIRE ABOVE  
5 STRANDS BARBED WIRE ABOVE  
5 STRANDS BARBED WIRE ABOVE  
5 STRANDS BARBED WIRE ABOVE  
NCE ( HOG WIRE )(5'WHEN NOTED)  
BARBED WIRE, STEEL POSTS

SECURITY FACILITIES.  
F FACILITY  
AREA USE TAB F-1.

DEPARTMENT OF THE AIR FORCE  
ASST CHIEF OF STAFF / INSTALLATIONS — WASHINGTON, D. C.

OGDEN AIR MATERIEL AREA

MASTER PLAN  
SECURITY

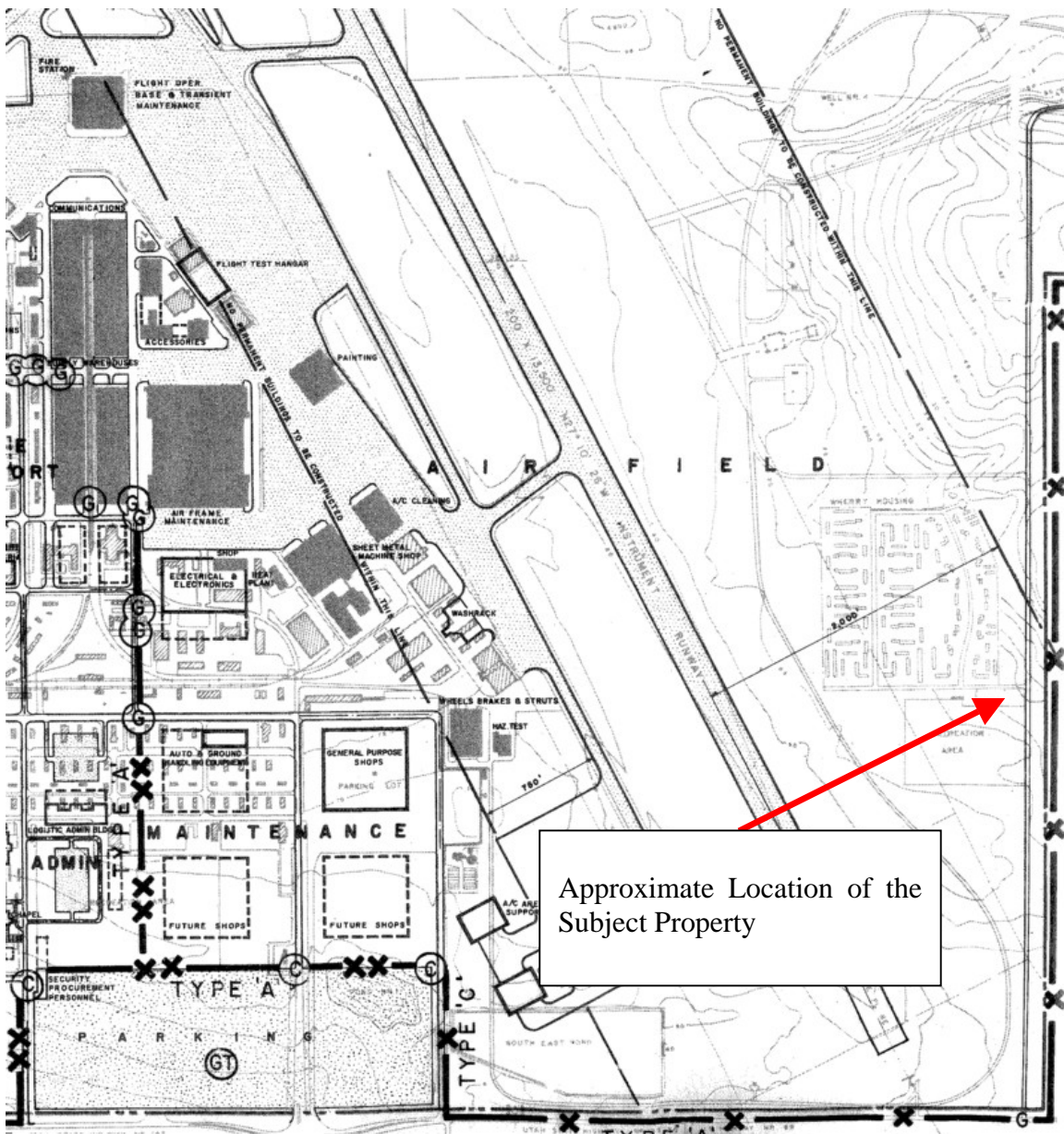
HILL AIR FORCE BASE  
HILL AIR FORCE BASE, UTAH

SCALE 1 INCH = 800 FT DATE 23 JAN 1959

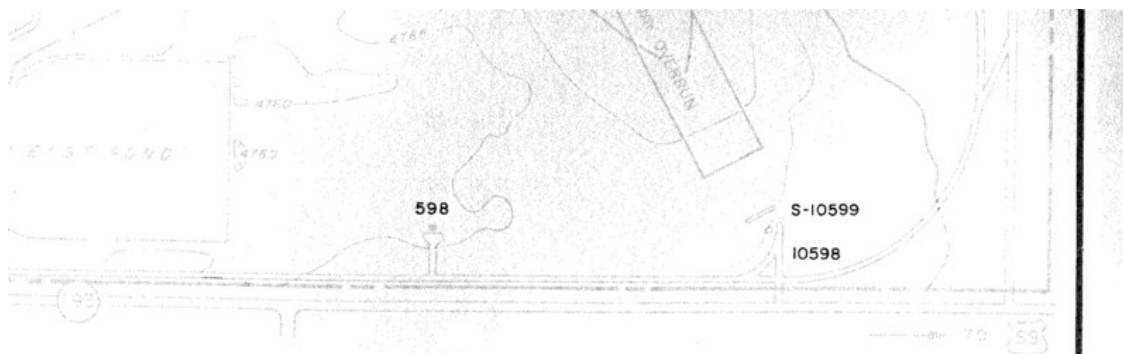
MASTER PLANNING DIRECTIVE: 57-6

LEO A. DALY CO. ARCHITECTS & ENGINEERS  
SAN FRANCISCO OMAHA SEATTLE ST. LOUIS

TAB  
NR  
H  
SHEET







#### SOURCE OF INFORMATION

MAP COMPILED FROM GOVERNMENT SOURCE MATERIAL WHICH USED PHOTOGRAMMETRIC METHOD, WITH GRID BASED ON UTAH COORDINATE SYSTEM, AND UNIVERSAL TRANSVERSE MERCATOR GRID. HORIZONTAL AND VERTICAL CONTROL BY U.S.G.S., U.S.C. & G.S. AND U.S.C.E. WITH MINOR CORRECTIONS BY U.S. GEOLOGICAL SURVEY. (TRANSVERSE MERCATOR PROJECTION.)



REV	DATE	DESCRIPTION	INITIAL
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#### PLAN REVISIONS

**DEPARTMENT OF THE AIR FORCE**  
ASST. CHIEF OF STAFF / INSTALLATIONS - WASHINGTON D.C.

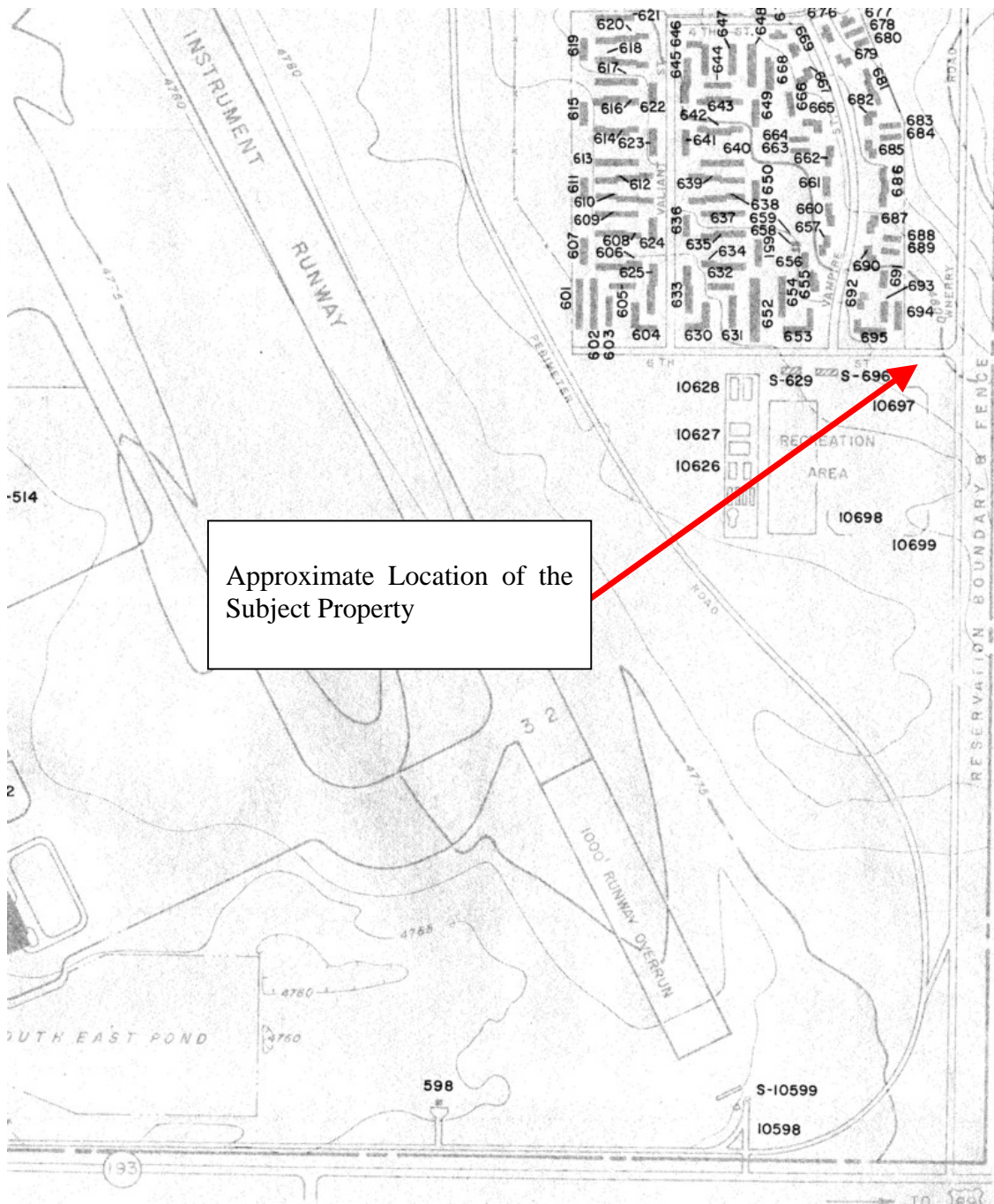
OGDEN AIR MATERIEL AREA  
**MASTER PLAN**  
**BASIC LAYOUT PLAN**

**HILL** AIR FORCE BASE  
HILL AIR FORCE BASE, UTAH

SCALE: 1 INCH = 400 FT. DATE: JANUARY, 1967

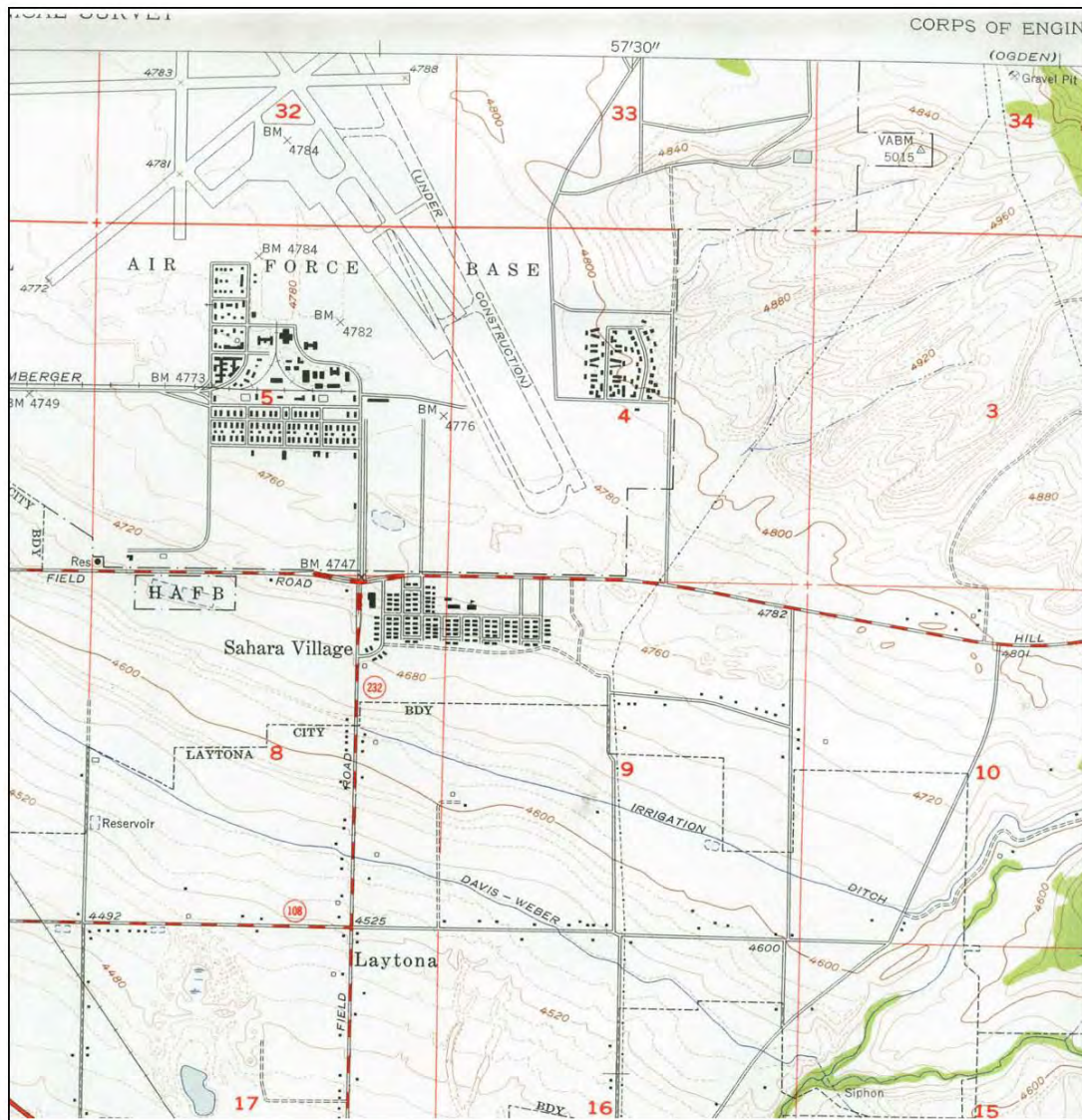
TAB  
NR **C-1**


ECTOPKELSON CO.



Approximate Location of the  
Subject Property

## Historical Topographic Map

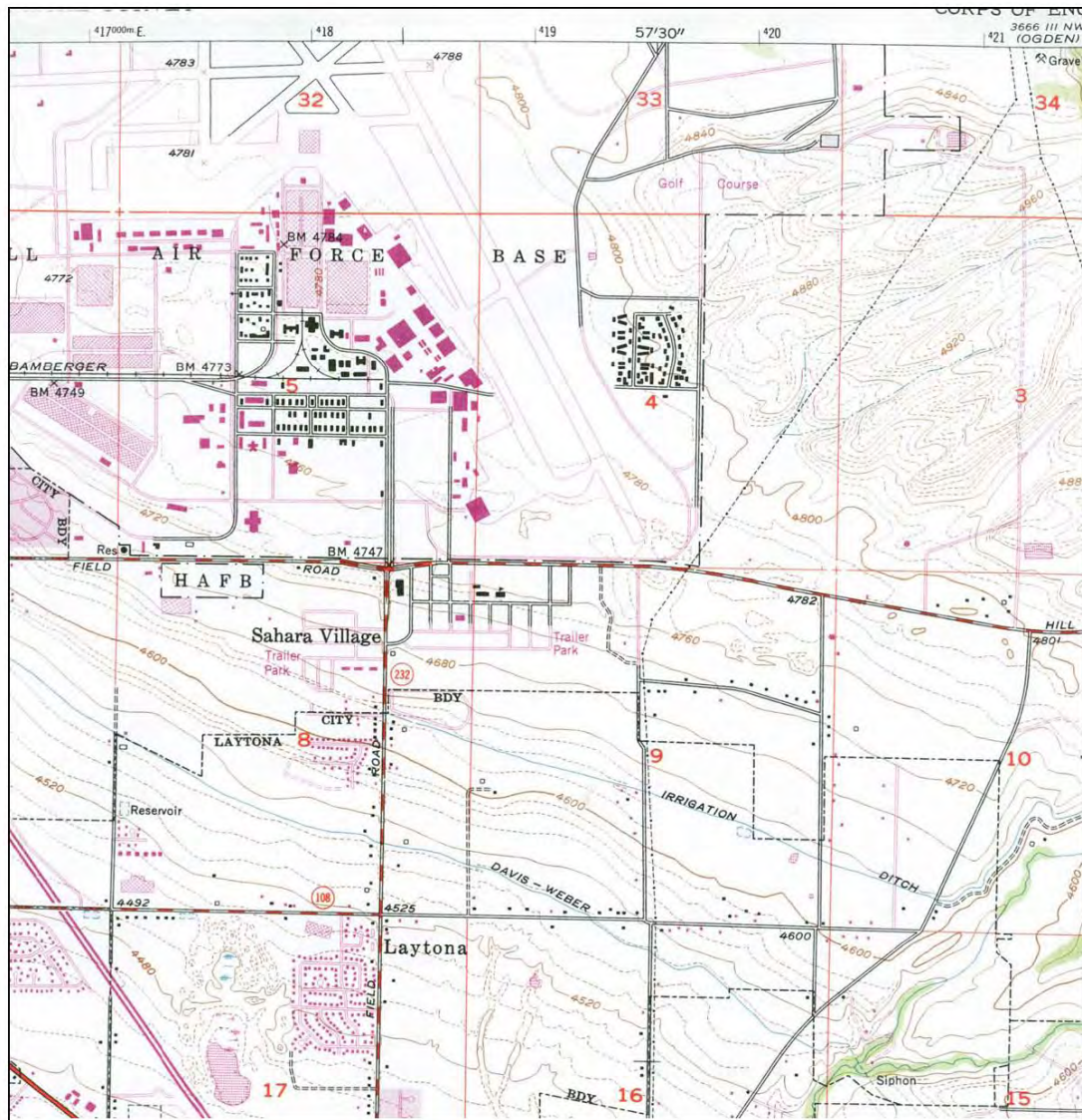


<div style="text-align: center;"> <b>N</b>   </div>	<b>TARGET QUAD</b> <b>NAME:</b> Kaysville, UT <b>MAP YEAR:</b> 1955  <b>SERIES:</b> 7.5 <b>SCALE:</b> 1:24,000	<b>SITE NAME:</b> Hill AFB <b>ADDRESS:</b> Waste to Energy Facility Hill AFB, UT 84056 <b>LAT/LONG:</b> 41.1103 / 111.957	<b>CLIENT:</b> Streamline Consulting, LLC <b>CONTACT:</b> Randal B. Klein <b>INQUIRY#:</b> 2622981.10 <b>RESEARCH DATE:</b> 10/26/2009

Note: Three representative historical topographic maps have been included, dated 1955, 1975, and 1992.

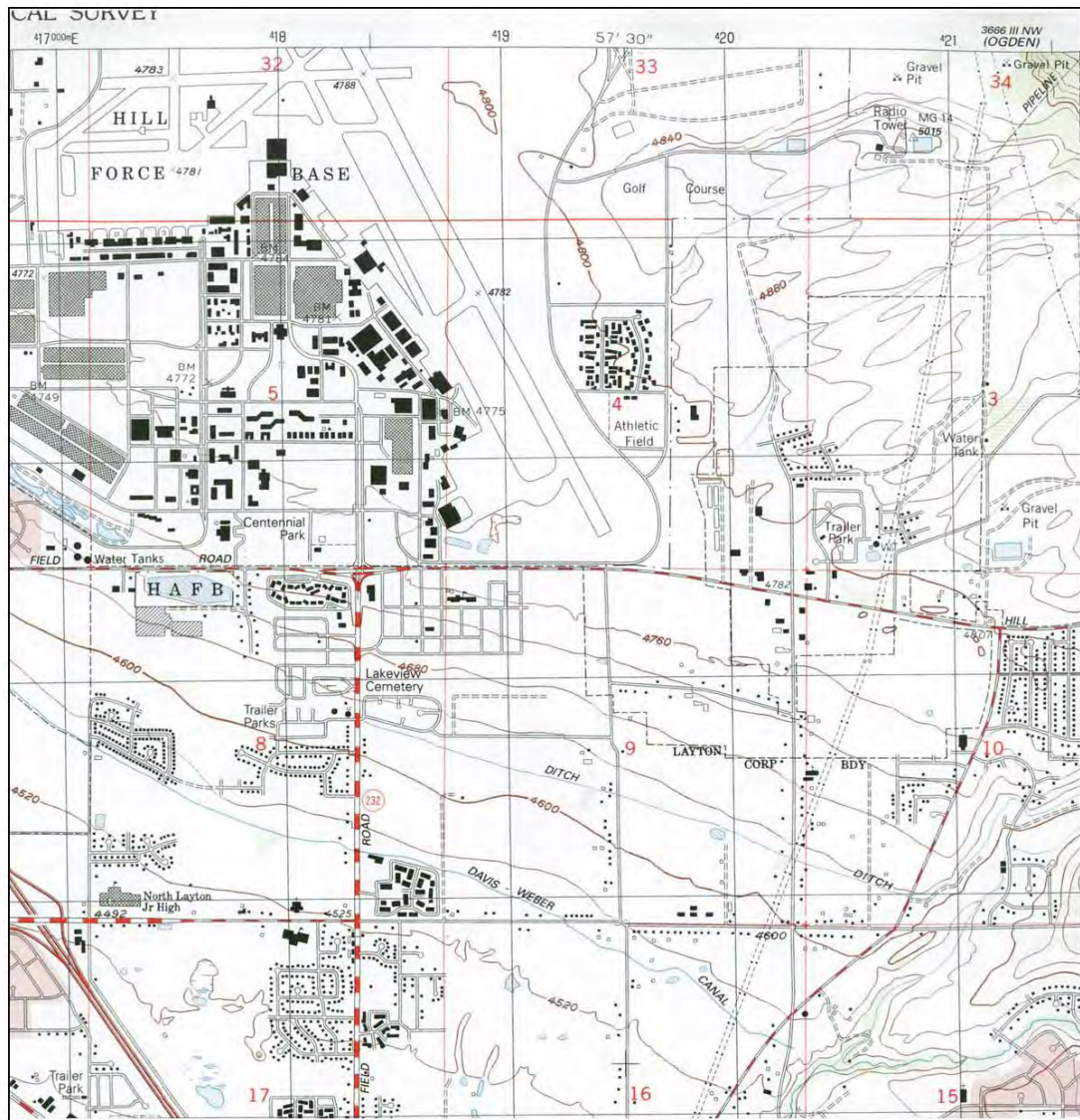


# Historical Topographic Map



N ↑	TARGET QUAD	SITE NAME:	Hill AFB	CLIENT:	Streamline Consulting, LLC
	NAME: Kaysville, UT	ADDRESS:	Waste to Energy Facility	CONTACT:	Randal B. Klein
	MAP YEAR: 1975		Hill AFB, UT 84056	INQUIRY#:	2622981.10
	PHOTOREVISED FROM: 1955	LAT/LONG:	41.1103 / 111.957	RESEARCH DATE:	10/26/2009
	SERIES: 7.5				
	SCALE: 1:24,000				

## Historical Topographic Map



N ↑	TARGET QUAD	SITE NAME: Hill AFB	CLIENT: Streamline Consulting, LLC
	NAME: Kaysville, UT	ADDRESS: Waste to Energy Facility	CONTACT: Randal B. Klein
	MAP YEAR: 1992	Hill AFB, UT 84056	INQUIRY#: 2622981.10
	SERIES: 7.5	LAT/LONG: 41.1103 / 111.957	RESEARCH DATE: 10/26/2009
	SCALE: 1:24,000		

**APPENDIX C**  
**AERIAL AND SITE PHOTOS**

Most of the aerial photographs reviewed were of such poor quality that a determination could not be made regarding condition of the subject property.

The best aerial photographs that could be located (1975 and 2006) are shown on the following pages.





INQUIRY #: 2622981.11

YEAR: 1975

| = 1000'





INQUIRY #: 2622981.11

YEAR: 2006

| = 604'





Photographs Taken November 10, 2009



Looking east from the northwest corner of the subject property



Looking southeast from the northwest corner of the subject property



Looking south from the northwest corner of the subject property



Groundwater monitoring well near the northeast corner of the subject property

**APPENDIX D      INTERVIEWS AND ADDITIONAL RESEARCH**  
*(see Appendix E for addresses and phone numbers)*

**Site Visit with David Bruce Evans****November 10, 2009**

The subject property is currently vacant except for one groundwater monitoring well observed in the northeast corner of the property. The subject property and surrounding properties are primarily occupied by undeveloped land (mown grass). To the east lies the Wasatch Energy Systems waste to energy facility. To the north lies a future Hill AFB entrance facility.

**Interview with Mike Berglund****November 18, 2009**

Reviewed the *Liquid Fuels System* map, dated September 25, 2000. No indication of pipelines, hydrant fueling, or transfer systems.

**Electronic Mail, Loni Johnson**

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From: Johnson, Loni Civ USAF AFMC 75 CEG/CEAAR  
[Loni.Johnson@HILL.af.mil]  
Sent: Monday, November 09, 2009 8:25 AM  
To: rbklein@streamlineut.com  
Subject: RE: Follow Up, Our Conversation

Yes, it's fairly accurate. I know the scouts used the two structures for meetings etc for a period of time. As far as information on the restrooms and sewer lines etc., you could check with David Murray, an engineer here in CE. If he doesn't know, he may be able to point you in the right direction. His number is 777-2118.

Loni

-----Original Message-----

From: Randal B. Klein [mailto:rbklein@streamlineut.com]  
Sent: Friday, November 06, 2009 9:31 AM  
To: Johnson, Loni Civ USAF AFMC 75 CEG/CEAAR  
Subject: Follow Up, Our Conversation

Loni,

Do these 2 notes accurately describe our phone call?

Follow-up phone call with Loni Johnson, 11/4/09

- 1) In the vicinity of Bldg 260, no indication that the surrounding paved areas (driveways, parking areas, storage areas) have had structures on them.

2) For the waste to energy facility area, it has been either vacant or used as a recreation area (playing fields). At one time there were restrooms and a few small storage sheds used for non-industrial purposes.

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-----Original Message-----

From: Johnson, Loni Civ USAF AFMC 75 CEG/CEAAR  
[mailto:Loni.Johnson@HILL.af.mil]  
Sent: Monday, November 02, 2009 4:32 PM  
To: rbklein@streamlineut.com  
Subject: RE: 2 areas for EBSs - Historical Use Query

Randy,

Our records show that Bldg 260 was built as a heating facility and has always been used as such. That's all the information I have.

Loni

**Electronic Mail, Bob Garland**

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From: Garland, Bob Civ USAF AFMC 75 CES/CLEA [Bob.Garland@HILL.af.mil]  
Sent: Thursday, November 12, 2009 4:28 PM  
To: rbklein@streamlineut.com  
Subject: RE: Oil Water Separators, East Boundary

Randy, same deal. I'm not aware of any OWSs in that area. Thanks.

Bob Garland  
75 CEG ESOH Coordinator  
801-777-4924

-----Original Message-----

From: Randal B. Klein [mailto:rbklein@streamlineut.com]  
Sent: Thursday, November 12, 2009 3:40 PM  
To: Garland, Bob Civ USAF AFMC 75 CES/CLEA  
Subject: Oil Water Separators, East Boundary

Bob,

Could you please view the attached PDF file and reply to confirm there are no oil water separators within the perimeter shown by the black line (south of former base housing).

Thanks,

Randy Klein

**Interview, Stephanie Winiecki**

**November 12, 2009**

This is an unimproved area of the base. No pesticides or herbicides are used. The only management activity is mowing..

**Electronic Mail, Mike Petersen**

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From: Petersen, Mike R Civ USAF AFMC 75 CEG/CEVC  
[Mike.Petersen@HILL.af.mil]  
Sent: Monday, November 16, 2009 2:48 PM  
To: rbklein@streamlineut.com  
Subject: RE: Sewer Connections, East Playing Fields

Correct as far as I know.

-----Original Message-----

From: Randal B. Klein [mailto:rbklein@streamlineut.com]  
Sent: Monday, November 16, 2009 2:23 PM  
To: Petersen, Mike R Civ USAF AFMC 75 CEG/CEVC  
Subject: Sewer Connections, East Playing Fields

Mike,

These are my telephone notes. Please reply to confirm they are correct, or send corrections if necessary.

This area is along the eastern Hill AFB boundary, south of the former Wherry Lane housing units.

Former restrooms were connected to sanitary sewer (lines lead off-base to North Davis Sewer District). When the restrooms were demolished, the sewer lines were capped and abandoned in place.

Thanks,

Randy

**Interview and Electronic Mail, Bob Lepper**

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Phone call 11/12/09 with Bob Lepper. My 11/9/09 e-mail was correct.

-----Original Message-----

From: Randal B. Klein [mailto:rbklein@streamlineut.com]

Sent: Monday, November 09, 2009 3:30 PM

To: charles.lepper@hill.af.mil

Subject: Demolition of Restrooms

Bob,

To summarize our discussion:

South of the former base housing area (Wherry Lane - south of the golf course) were 3 baseball diamonds. One or two of the backstops may remain standing.

This area is now used for frisbee golf.

The restrooms were demolished April, 2007. The former restrooms were connected to a sanitary sewer line, the connections to which were capped, and the lines were abandoned in place.

Please send me any additions or corrections to my summary.

Thanks,

Randy Klein

**Interview, William Kopfman****November 18, 2009**

In this area, the former restrooms did have drinking water available, so water lines are present for the subject property.

The Hill AFB water supply system is tested and meets drinking water quality standards.

**Electronic Mail, Rodney Sanders**

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From: Sanders, Rodney B Civ USAF AFMC 75 CES/CEOS  
[Rodney.Sanders@HILL.af.mil]

Sent: Tuesday, November 10, 2009 10:54 AM

To: rbklein@streamlineut.com

Subject: RE: Phone Call Notes

Signed By: rodney.sanders@hill.af.mil

Security Label: Signed - Invalid signature

Randy,

Made a couple of changes.

Rod

-----Original Message-----

From: Randal B. Klein [mailto:rbklein@streamlineut.com]

Sent: Tuesday, November 10, 2009 8:31 AM

To: Sanders, Rodney B Civ USAF AFMC 75 CES/CEOS

Subject: Phone Call Notes

Rodney,

This e-mail contains my notes from our telephone conversation. Please reply to let me know if I need to make any corrections.

Playing fields south of former Wherry Lane military housing:

Asbestos: The site is now vacant. Asbestos abatement was performed when the restrooms and storage sheds were removed from the site. It is possible that below-ground transite pipe exists related to the abandoned sewer/water lines from the former restrooms and rickwell steam/condensate lines.

*Author's note: subsequent conversations with Ms. Helen Kenyon-Bares revealed the steam/condensate lines are located approximately 300 feet south of the subject property.*

PCBs: No transformers exist in this area. Presence of PCBs is not suspected.

Lead-based paint: The site is now vacant. Presence of lead-based paint is not suspected.

Thanks,

Randy Klein

**Interview, Helen Kenyon-Bares**

**November 19, 2009**

Re: Proposed Waste to Energy Facility

No natural gas lines in the area. The east-west steam line lies about 300 feet to the south, near the former ball field parking area.

## **Interview and Electronic Mail, Cary Fisher**

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Telephone call update 11/12/09 with Cary Fisher: No other radon studies have been performed on Hill AFB. Housing was assumed to be the worst case (based on hours per year occupancy) and no radon concerns were identified.

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From: Fisher Cary Civ 75 MDG/SGPB [Cary.Fisher@HILL.af.mil]

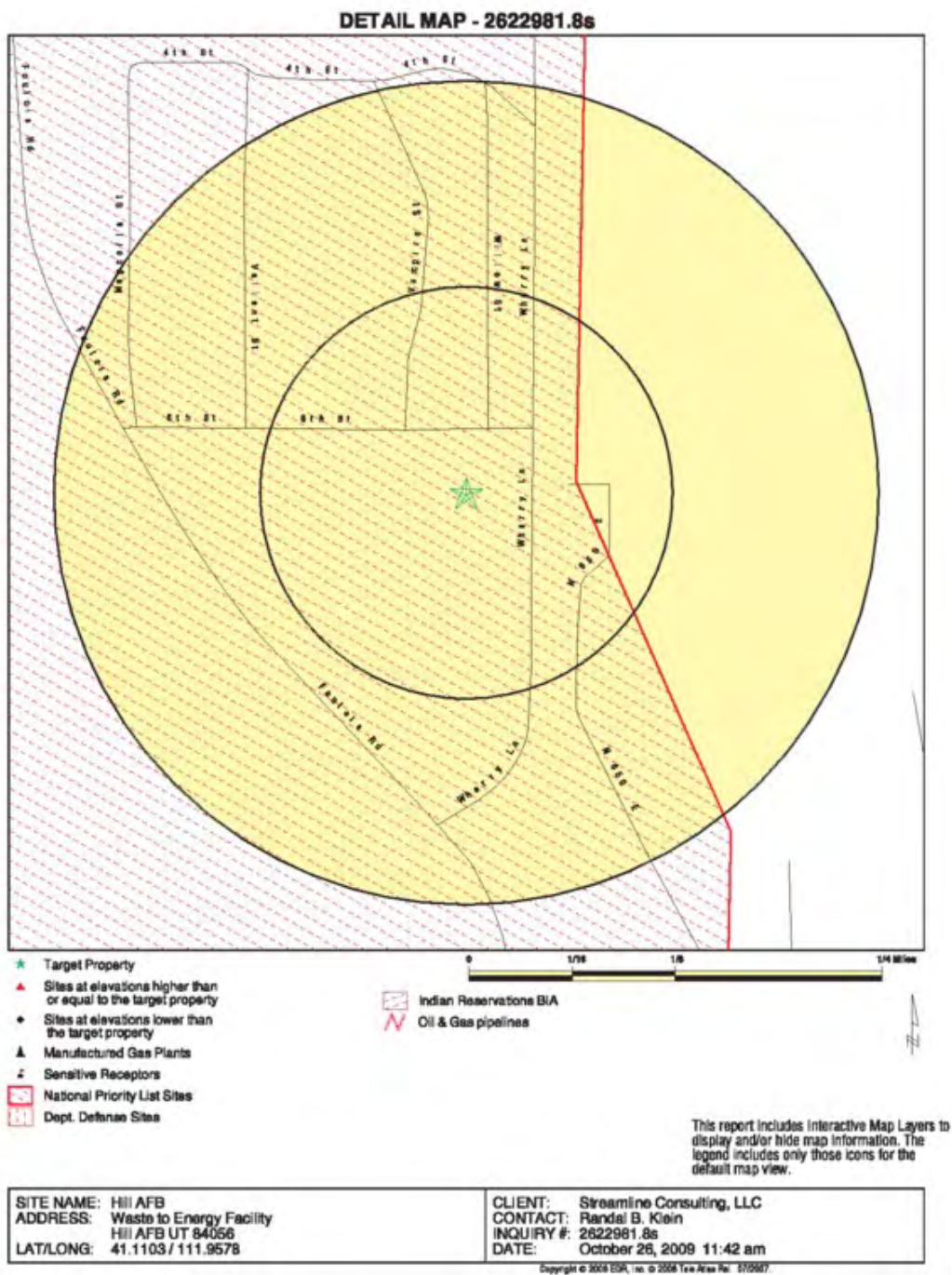
Sent: Monday, November 18, 2002 12:12 PM

To: 'rbklein@streamlineut.com'

Subject: RE: EBS for Proposed Weber Basin Fluoridation Station

The radon assessment done in HAFB homes in the late 1980's indicated there were no problems with radon in HAFB homes.





The EDR report showed no results in the vicinity of the subject property.

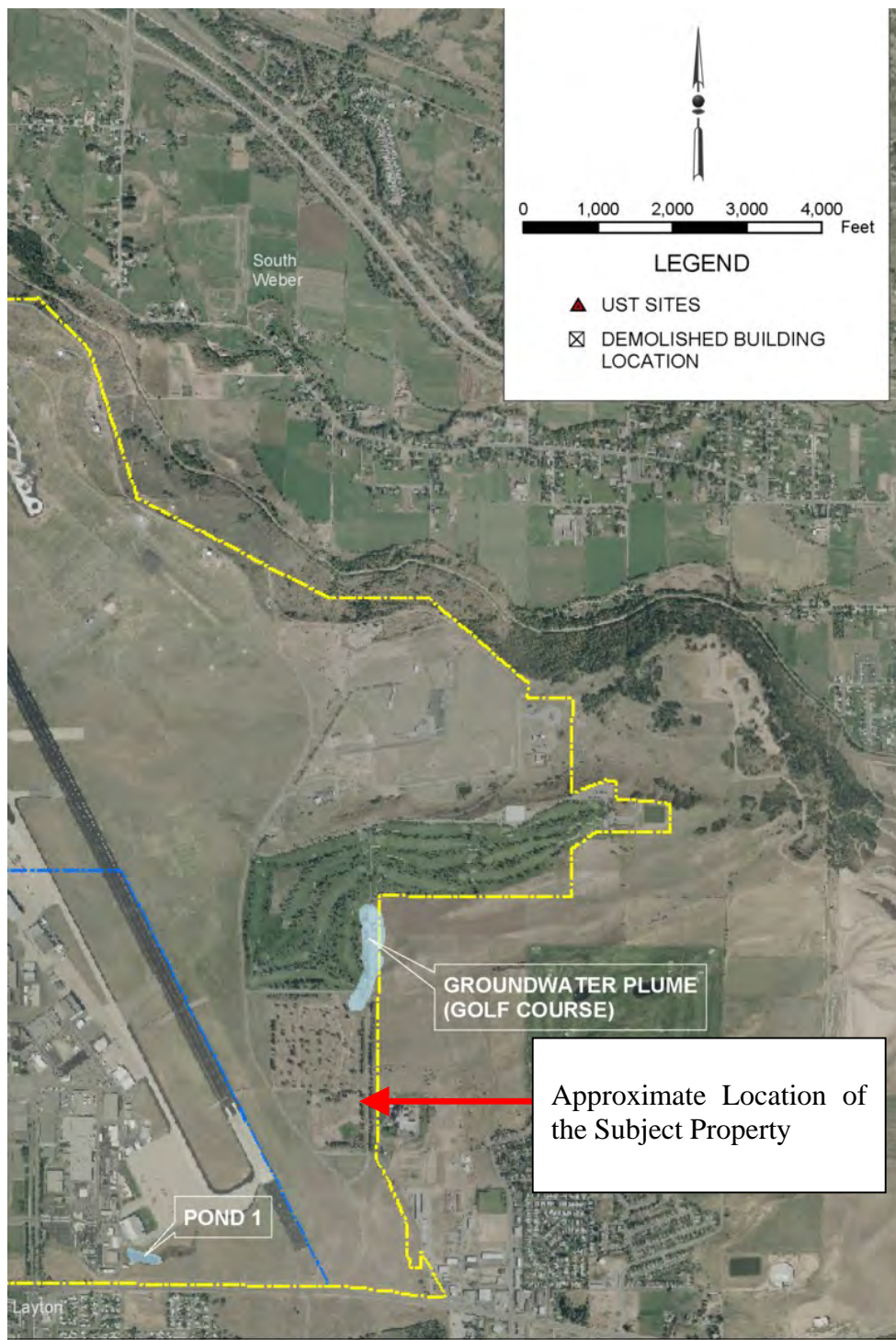
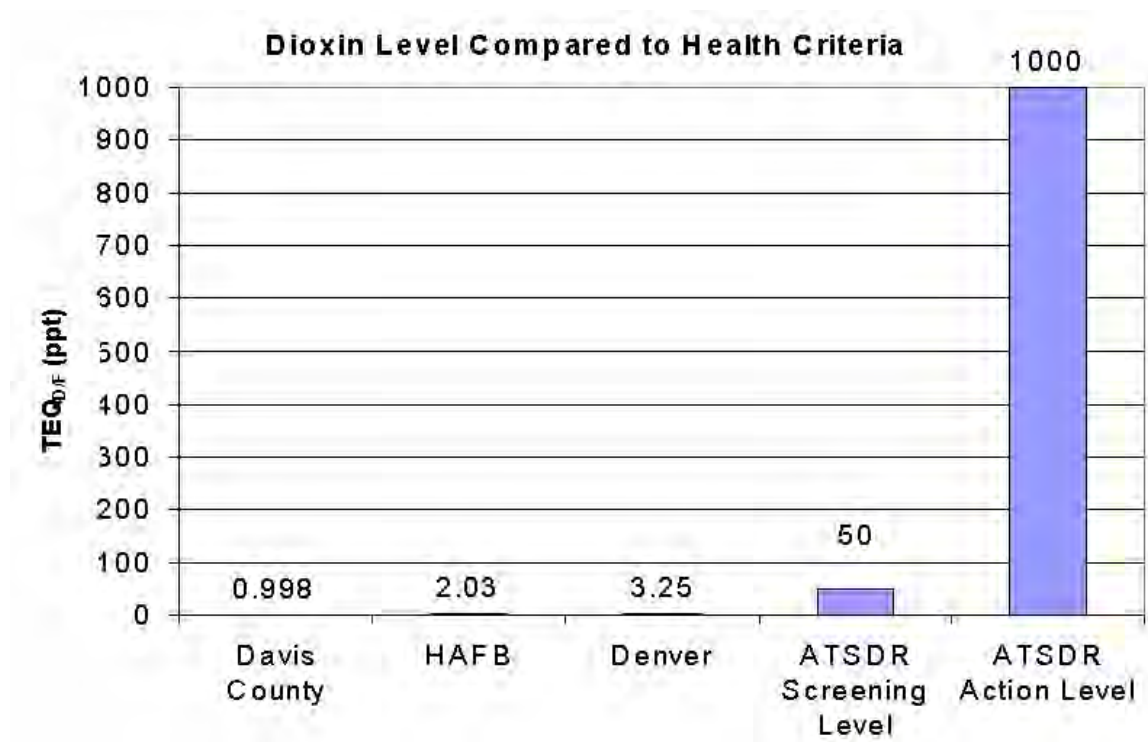


FIGURE 1-4  
**OU9 INVESTIGATION AREAS**  
 OPERABLE UNIT 9 REMEDIAL INVESTIGATION  
 HILL AIR FORCE BASE, UTAH

Source: CH2M 2005



Source: Rocky 2003

## APPENDIX E REFERENCES

### LIST OF DOCUMENTS REVIEWED

**CH2M 2005:** *Hill Air Force Base Operable Unit 9, Remedial Investigation Report*, CH2M HILL, April, 2005.

**DAQ 2003:** *Davis County Soil Dioxin Study*, Utah Division of Air Quality, 2003.

**EDR 2009a:** The EDR Historical Topographic Map Report: *Waste to Energy Facility, Hill Air Force Base, UT, 84056*, Environmental Data Resources, Inc., October 26, 2009.

**EDR 2009b:** The EDR Historical Aerial Photograph Report: *Waste to Energy Facility, Hill Air Force Base, UT, 84056*, Environmental Data Resources, Inc., October 26, 2009.

**EDR 2009c:** The EDR Radius Map with GeoCheck: *Waste to Energy Facility, Hill Air Force Base, UT, 84056*, Environmental Data Resources, Inc., October 26, 2009.

**Hill AFB 1959:** *Ogden Air Materiel Area Master Plan – Security*, Hill AFB, January, 1959.

**Hill AFB 1967:** *Ogden Air Materiel Area Master Plan – Basic Layout Plan*, Hill AFB, January, 1967.

**Hill AFB 2000:** *Liquid Fuels System*, Hill AFB, September, 2000.

**Kaysville 1985:** *Layton Utah, Historic Viewpoints*, Kaysville-Layton Historical Society, 1985.

**Leonard 1999:** *History of Davis County*, Leonard, Glen, 1999.

**Ogden 1936:** *Ownership Map of Ogden Arsenal and Vicinity*, revised January, 1936.

**Ogden 1943:** *Water Works System, Ogden Ordnance Depot, Ogden Utah*, May, 1941 (Revised 2-8-43).

**Rocky 2003:** *A Comparison of the Dioxin Levels Found in Residential Soils of Davis County Utah to Those Found in the Denver Front Range*, Rocky Mountain Center for Occupational and Environmental Health, 2003.

## **LIST OF PERSONS AND AGENCIES CONSULTED**

Hill AFB Enhanced Use Leasing Office, OO-ALC/XP-EUL

David Bruce Evans, Energy Team, (801) 586-2889

Hill AFB History Office, OO-ALC/HO

Amy Butler, Historian, (801) 777-4006

David Kendziora, Historian, (801) 777-4002

Hill AFB Environmental Division, 75 CEG/CEV

Jarrod Case, P.E., Remedial Project Manager, (801) 777-3943

Sam Johnson, Storage Tank Program, (801) 775-3653

Mike Petersen, Wastewater Program, (801) 775-6904

Hill AFB Civil Engineering, 75 CEG and 75 CES

Loni Johnson, Realty Specialist, (801) 777-3550

Helen Kenyon-Bares, Chief, Geospatial Information & Services, (801) 777-2650

Mike Berglund, Liquid Fuels Maintenance Technician, (801) 777-9576

Bob Garland, Env. Safety Occupational Health Coordinator, (801) 777-4924

Stephanie Winiecki, Pest Controller, (801) 777-4427

William Kopfman, Utility Supervisor, (801) 777-3647

Rodney Sanders, Asbestos Program Manager, (801) 777-6782

Bob Lepper, Project Manager, (801) 777-2619

Hill AFB Bioenvironmental Engineering 75 AMDS/SGPB

Cary Fisher, Supervisor, (801) 777-1053